

Objective Space Based Algorithms for Vector Linear Programs

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Place: Otto-Hahn-Straße 16,

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Abstract:

This talk provides an introduction into algorithms for vector linear programs (and the special case of multiple objective linear programs), where we aim to compute a solution (which is a set of vertices and extreme directions of a polyhedron) "in the objective space". We point out advantages of this approach in comparison to decision space based algorithms like the multi-objective simplex method. In the second part of the talk, we discuss the role of vector linear programming duality in order to obtain dual algorithms. We show that for the class of vector integer linear programs, there are even stronger distinctions between primal and dual algorithms. These differences concern both solution concepts and complexity issues.